hive systems

LOGAN RAY

25 NOVEMBER 2002 - 12 JANUARY 2003

OPENING RECEPTION: MONDAY 25 NOVEMBER - 6-8 P.M.
STOREFRONT FOR ART AND ARCHITECTURE
97 KENMARE ST.
NEW YORK, NY 10012

www.hive-systems.com

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What began as an investigation of real and virtual spaces, eventually manifested itself as Hive Systems, a mutually interactive web site and physical installation. The installation is powered by a central server, or brain, located in the gallery, which serves as the main generator, processor, and distributor of information. This server receives input both directly from numerous sensors, cameras & triggers in the physical space, and also via user input over the Internet. In some cases the installation responds directly to this input, reacting via movement, light, or sound for the physical space, or by a direct response on the web site. The experiences of the physical and virtual users are flexible and interdependent. Ultimately, interaction with the Hive Systems installation is both behavioral (through programmed response patterns), and democratic (through multiple user input).

www.hive-systems.com goes live when the installation opens at Storefront: Monday November 25 at 6 p.m.

Storefront and Logan Ray discussed some aspects of the project:

Storefront: What what led you to produce Hive Systems?

Logan Ray: It really came out of two places. One is the interactive work I began developing in school as a presentation technique. As I delved further into creating dynamic interfaces and user experiences, it was a natural extension to experiment with bringing those qualities into a physical, or built, project. Web design, especially in Flash, is always stretching itself to mimic physical properties, and I thought it would be interesting to look at things the other way around.

The other half of my motivation arose from a series of furniture pieces I designed, called electrik units, in a studio with Renny Ramakers of Droog Design. I was looking at new ways of accessing electric power in the home, and the pieces were all new spins on existing objects which brought the electricity right to your fingertips. Working on these objects led to a certain aesthetic fascination (fetishization?) with electronic components, and a curiosity about the home automation systems which have been developed to work with them. It is a kind of electric empowerment, a parasitic adaptation, which lets these omnipresent, benign devices take on a totally different character. When you begin to see that every house that uses electric power is already networked, and capable of communication with others, a world of opportunities opens up.

SF: How does Hive Systems work?

LR: The current Hive Systems installation at the Storefront is an attempt to create a single environment with both virtual and physical representations. The interactive physical environment is made possible by a conglomeration of existing systems which are cheap and readily available, but put together in unintended ways. The control aspects are made possible by creating a local network using the existing electrical wiring infrastructure, and a home automation protocol called x-10. On the virtual side, there is a main server located in the physical space which can communicate with a multitude of electronic devices in the space through the x-10 protocol and interact with the web site using a Microsoft Active X control, Active Server Pages, and a custom database which stores and retrieves user information.

SF: Where and how is feedback employed in the system?

LR: There is a push and pull relationship between the physical installation and the web site, which provides a constant loop. Feedback is different in this installation than in the one I did for my thesis at Rice, in that by using a database, information can be analyzed, averaged, concatenated, modified, and/or filtered before being presented. In the previous version, data was always presented directly, or as the direct result of a set of conditions. The web user had direct control over the physical space. The visitor to the physical installation indirectly controlled the web user's experience. In this version, that is not exactly the case. Some feedback is still direct, but there will also be a great deal of information which the visitor to either the physical or web side of the installation will not necessarily recognize. This is intentional, and is the product of a complex and open system. In a hive system the individual user may not be able to identify his or her own particular input, but that is not really important. What is important, or what I am most interested in, is the pattern which emerges from public use as a whole, the emergent hive response, which expresses itself in a very different way.

SF: You have talked about the intersection of virtual and physical space and the presence of the two in this project pointing to the idea of a third space. What is that third space?

LR: The third space is in your mind, and it is the intersection of the other two. It is the imagination of the user developing an entirely new space based on intentionally incomplete information. The scariest movies are always those which leave the horrific parts to the imagination. When you leave space for the viewer's imagination, they will come up with something much more powerful, and tailored to their own experience than a designer can ever provide. A sense of mystery is good in all things. The curious response is one that is more open and experiential than one in which all things are understood. We always need to leave a little room for wonder, for people to figure things out for themselves.

I remember Bruce Mau talking about the third image, the power of juxtaposition, and how you can achieve a really powerful effect as a designer if you create in such a way as to allow the sum of your parts to surpass the power of each taken individually. It is a simple idea really, and people do it all the time without even thinking of it in that way, but I think it is an interesting conceptual binder for this project.

SF: Where does the aesthetic strategy of the installation come from?

The clean white sterile aesthetic is both functional and derivative. For one thing it allows me to have the maximum environmental effect in the physical space. Colored bulbs don't do much in a room painted black.

The electronics/tech side of the aesthetics comes from a desire to share a sense of the physical intelligence. I want to give the impression that the room knows, that it senses, that it thinks and has real awareness. Painting the installation completely white gives it the feel of a unified entity or organism, which reveals its inner workings where it is cut, sliced open in red. It is in these cuts that you see behind the curtain, inside the circuit box, exposing the wiring, the hard drive, the circuitry, the sensors. I wanted to physically express the intelligence of the space, but using common elements, like a field of household receptacles. In this way the experience is unique, but also commonplace, and the mental image it evokes is transferable, and thereby perhaps more lasting.

SF: How is telepresence implied in this project?

LR: The idea of telepresence is very prominent in this project, and very exciting and crucial I believe for the development of architecture for the future. One thing I feel very strongly, and that I hope to express at least partially in the installation, is that intelligence is already there in our built-in systems, it is just seldom tapped. Where there is a connection, there is a path. Where there is a system of paths, there is a network. And where there is a network, it is natural that it will be used to gather information.

This system privileges the web user in a way in that it gives them a chance to affect a space from anywhere around the world that they can access the internet. They can have a direct and very real physical effect on a small environment in downtown Manhattan from anywhere. In return, the input of the visitor to the physical space directly affects the interface of the web visitor.

Marshall McLuhan speaks of media as an extension of the senses. When we use the telephone it is as if we can extend our ear to the other end of the line, and the other person's vocal cords come over to our side. Similarly, this installation attempts to remotely translate from one group of users to another, so that there is a sense of shared experience and intertwined identity.

The ability to experience something from afar, to immerse ourselves in non physical environments is only growing stronger generation by generation in our society. There are many grade school or junior high kids today who can and immerse themselves in the totally fictional worlds of their PlayStations and GameCubes with an ease and comfort level that is astounding. We are all becoming more and more comfortable with the virtual realm. I don't know if it will, but I think it should have profound consequences for the field of architecture in the future.

SF: Is there a process of translation embedded in the system? Is data/information translated into a visualization/spatial experience?

LR: The atmosphere, both in the physical installation and in the web interface, is designed to reflect the status of the other side. Information from sensors and the configuration of the physical space is translated into atmosphere for the web user, and vice versa. This process of translation is sometimes direct, sometimes indirect, depending on which mode the system is in.

SF: This installation or system employs technology from various realms. In the case of the x-10 technology it is targeted for domestic use by an individual user (Here I mean a home owner deciding what electrical items he/she would like to turn off/on, monitor, etc..) What are the implications of using these kinds of technologies in a public space and introducing multiple users/controllers?

LR: For the individual user it may feel a bit like a complex toy, a whimsical system of control, but what I am curious about (and don't know yet) is what types of usage patterns emerge over time. Given that people are affecting each other's experience remotely, and not directly, the rules feel a bit different. Will people work together to create a desired effect? Will people be rude or inconsiderate to others? I'm sure both will happen. The installation has all of the possibilities for sublime synchronicity and crass or destructive response inherent in other forms of participatory public art. But that is what makes it exciting, that you don't know what you will get.

As you brought up, the home automation equipment and techniques used, especially the x-10 modules, are designed for closed systems. They were created for individuals or families who wanted convenience, security, and total control over their environments. As such, one of the main obstacles in creating the hive systems installation was finding ways to modify these systems to let anyone get in.

SF: How do you feel about automation and programming buildings to have responses and behaviors?

LR: I think it is one of the most exciting things to happen to architecture in a long time. Unfortunately, most architects don't even know what is possible, or if they do, many don't consider it architecture. We are entering a time when buildings can and will think, respond, and interact with us in meaningful ways. The word 'programming' can and should start to take on a more powerful meaning in terms of how spaces are designed. Already intelligent appliances are starting to show up in our homes, and when networked they will start to form interactive systems. But these will be little more than spy networks for corporations and marketing agencies, thinly veiled with convenient features.

I would like to see a more holistic approach to the design of intelligent spaces, and I think it is the architect's role to implement it. If architects refuse to recognize interactive design as a part of architecture, 'space as interface,' someone else will gladly rush in and take their place. I think the buildings we create will be much more interesting if architects know enough to design a dynamic system from the ground up, as opposed to simply specifying whatever stock system is available from Microsoft or Sony. Our basic building materials are changing, and will continue to change. They will get lighter, stronger, smarter, and they will be able to work together. Some of the most interesting research along these lines is going on now at MIT in a joint venture between the Media Lab and the School of Architecture called 'house n'. One project is building modular, intelligent systems, which are basically 'plug and play' where building components identify themselves to the system as they are snapped into place. When you combine this type of infrastructure with the still developing field of kinetic structures, which can flex and move, I think we will see some very exciting things start to happen.

PROJECT CREDITS

The first incarnation of this project was presented in January of 2001 as my design thesis for a Master of Architecture degree at Rice University. Thanks to my advisors, David Brown, Lars Lerup and John Casbarian, and to my friends and colleagues.

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Everyone at Storefront has been amazing: enthusiastic, engaging, provocative, and hard-working. Sarah, Chris, Fran, Wes: you guys are great. Thanks for making this all possible.

Special thanks to Ben Aranda.

Logan Ray and Omayya Kanafani have operated under the name Pikka Design since 1998, and together have completed numerous projects for interactive media, print design, identity, and physical objects/spaces. Both are currently working as architects at Helfand Myerberg Guggenheimer in Manhattan.

This is Logan's first solo exhibition.

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Storefront for Art and Architecture
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